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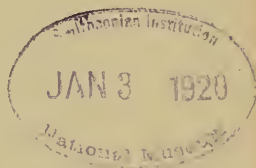
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X

NOTES ON THE AVIFAUNA OF THE INNER COAST
RANGE OF CALIFORNIA

BY

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In this paper are presented some of the results of field work done by the writer and Mr. Luther Little, assistant curator, in the inner Coast Range from Mt. St. Helena in Napa County, Calif., and northward to Mt. Sanhedrin in Mendocino County.

Leaving San Francisco on the morning of April 10, 1919, we reached Mt. St. Helena Inn about 3:00 P. M. the same day. On the way to Vallejo attention was given to the gulls which followed the boat. I wished to note the color of feet of the immature Western Gull (*Larus occidentalis*) over which there has been recent controversy. Very few of this species were seen, but there were some stragglers still left, and among them immature birds which sailed so close to the upper deck as to make examination an easy matter. We found their feet to be of a dingy flesh color.

November 25, 1919

The Mt. St. Helena Inn is a little over seven miles from Calistoga on the toll road to Middletown (Lake Co.), just over the top of the pass at the southeasterly end of the southernmost peak of the mountain itself, which rises abruptly from the long ridge extending several miles to the southeast and constituting the easterly wall of Napa Valley. The altitude of the pass is 2300 feet. Mt. St. Helena is the most southerly of the higher mountains of the inner Coast Range north of San Francisco Bay, with an altitude given variously on different maps, the greatest of which is 4337 feet for the highest of its three peaks. Its upper slopes are for the most part covered with rocks and brush, with forest extending up the sheltered ravines in some places nearly to the top. The brush is principally scrub oak, chamisal, and manzanita, with some ceanothus.

Near the top are found a few of the trees and plants of the Sierran association, such as yellow pine (*Pinus ponderosa*), sugar pine (*Pinus lambertiana*) and mahala mat, or squaw grass (*Ceanothus prostratus*). The character of the valleys on each side of most of these inner Coast Range mountains is Upper Sonoran, but the higher peaks of the long ridges still find enough moisture in the breezes from the sea to lift them and their northern slopes from their surroundings and enable them to form an island of Transition, Mt. St. Helena and its immediate vicinity being the southernmost part of this island.

On the northerly side of the mountain, and on the nearby ranges, the slopes are very steep and heavily covered with forest or brush, even down to a comparatively low altitude, and grassy or arable spots are few and far between for many miles, as are human habitations.

Dr. Walter K. Fisher spent something over two weeks in this place in 1900 (Aug. 29 to Sept. 14), the result of his observations appearing in *The Condor*, Vol. II, 1900, p. 135, wherein he gives a detailed list of the arboreal flora and the avifauna of this region. To quote from this paper:

“Some of the forms on Mt. St. Helena are characteristic of the drier inland districts, while nearly related races are found in the humid coast belt just to the west. . . . Thus we have closely related but ordinarily rather widely separated races brought close together.”

This description is applicable to a great part of this region, both south and north of Clear Lake. Dr. Fisher's visit, however, was in the early fall, extended over a much longer period than ours, and evidently covered much more territory. Ours was in the spring, too early for many of the summer visitants, and was confined to the Transition zone. Fisher listed 57 species of birds, while we noted but 35, not counting some others met with at our next stopping place, which was two miles further on and could be said to be still a part of Mt. St. Helena. On the other hand, we noted 14 species not mentioned by him, as follows:—Sharp-shinned Hawk (*Accipiter velox*), Cabanis Woodpecker (*Dryobates villosus*), Western Flycatcher (*Empidonax difficilis difficilis*), Western Crow (*Corvus brachyrhynchos hesperis*), California Purple Finch (*Carpodacus purpureus californicus*), Golden-crowned Sparrow (*Zonotrichia coronata*), Western Chipping Sparrow (*Spizella passerina arizonæ*), Sierra Junco (*Junco oreganus thurberi*), Shumagin Fox Sparrow (*Passerella iliaca unalaschcensis*), Yolla Bolly Fox Sparrow (*Passerella iliaca brevicauda*), Barn Swallow (*Hirundo erythrogaster*), Lutescent Warbler (*Vermivora celata lutescens*), Audubon's Warbler (*Dendroica auduboni*), and Monterey Hermit Thrush (*Hylocichla guttata slevini*). Of these the Golden-crowned Sparrow, Shumagin Fox Sparrow, and Yolla Bolly Fox Sparrow were only lingering or passing migrants, but the others either bred there or not far away, in all probability. The Monterey Hermit Thrush, however, must have been merely a wanderer, a few miles only to the eastward of its known breeding ground.

Of Fisher's list the *Toxostoma* is evidently the Sonoma Thrasher (*Toxostoma redivivus sonomæ* Grinnell), and the *Chamæa* mentioned is *Chamæa fasciata henshawi*, a change in name only. While he was right in saying that this latter form resembles that of southern California, it is hardly typical, being somewhat intermediate toward *rufula*. His remarks concerning the Blue-fronted Jay (*Cyanocitta stelleri frontalis*), are of interest in view of our present knowledge that these two forms extend down the Russian River valley to the actual sea-coast (Sierra Forms on the Coast of Sonoma County, California, J. Mailliard, *The Condor*, X, 1908, p. 133). His California Jay does not seem to me to be separable from the

coast form, but his two towhees respectively approach the Sacramento Towhee (*Pipilo maculatus falcinellus* Swarth), and the Northern Brown Towhee (*Pipilo crissalis carolæ* McGregor). Other changes in his list would be only cases of up-to-date changes of nomenclature.

Curiously enough, Dr. Fisher did not mention the Sierra Junco (*Junco oreganus thurberi*), which we found breeding there. As we were being shown to our sleeping quarters at the Mt. St. Helena Inn, shortly after our arrival there on the afternoon of April 10, one of these birds with something in its mouth attracted my attention, and later search developed a nest in course of construction near the top of the excavated bank just back of the building. This nest was among the roots of a small oak growing on the very edge of the top, and the nest was nearly hidden by vines that covered the bank as well as protected it from the sun and ordinary rains by a slight overhang of earth. Returning to this place on May 3 we found that the nest contained five heavily incubated eggs. Nest, eggs and one parent (No. 19858, C. A. S.), were taken for the breeding record, as being the first for the locality.

Perhaps the most important result of our visit was the finding of the Yolla Bolly Fox Sparrow (*Passerella iliaca brevicauda* Mailliard) on Mt. St. Helena, apparently well established there. In the brush, from an altitude of about 2800 feet up to the top, they were quite numerous during our four days' stay, but wild as are most of this genus outside of the breeding season. It was an easy matter to "squeak them up" near one, but they would appear on the tops of the bushes only to dart down again at the slightest motion the observer might make. In spite of this characteristic, several specimens were obtained. At this date it seemed possible that this sparrow might be breeding on Mt. St. Helena, as it was so close to the nesting time, but a later visit (on May 3) failed to develop any sign or sound of fox sparrows. It is reasonable to suppose, from the number and actions of those we found there, that this locality must be within the general winter habitat of the Yolla Bolly Fox Sparrow, probably about the southern limit except for occasional straggling, but it will need some further seasonal observations to determine this. Specimens have been taken

often in southern California in winter, but no well populated wintering ground south of Napa County has yet been found.

A few fox sparrows of other forms were found among the Yolla Bolly which were evidently passing migrants, on their way to their more northern breeding grounds.

The weather during our stay here was chilly most of the time, rainy and consequently gloomy some of the time, and far from favorable for such observations as we wished to make, and as we were working almost altogether in the forest or brush of the Transition zone, this may account in part for our small list of birds noted. In addition to this, most of the winter visitants had left and it was too early for the summer influx. This latter fact, however, was to our advantage in that we could note the date of arrival of the summer visitants as they appeared. The Western Flycatcher was the only species of the latter found in the higher altitudes at this date, the first being noted on April 1.

The Sacramento Towhee seems to be the race inhabiting this locality, and is true to form as regards relative size of feet, but in coloration it appears to intergrade with *falcifer*, whose territory lies only some twenty or thirty miles westward in the more humid strip near the coast.

The Northern Brown Towhee of this region also somewhat approaches the coast form, *crissalis*, but can be easily distinguished. The Black-throated Gray Warbler was found in Transition here, and there seems to be every probability of its nesting, but this was not proved, few individuals being seen and none taken. Fisher mentions this species as being very numerous at the time of his visit in the late summer.

This locality was last visited on May 3, to ascertain if the Yolla Bolly Fox Sparrows were breeding here. That afternoon Mr. Little went up to the top of the first peak, while I remained lower down at the levels in which we had taken them previously, but not an individual was seen nor a note heard. It is barely possible that some might be breeding on one of the other peaks, neither of which is very much higher than the south peak we were on, but bad weather with dense fog set in, after a hot spell we had been having, showing signs of considerable duration. There being small likelihood of our finding any fox sparrows there the idea of further investigation was

abandoned, especially as upon the mountains to the north of this it does not appear to breed below 4500 feet at the lowest, this altitude corresponding with my experience in the Sierras at about the same latitude.

MOUNTAIN MILL HOTEL

As this expedition was more in the nature of a prospecting trip for the purpose of ascertaining as nearly as possible what localities in the area selected might be the most interesting for more protracted examination, our stay at Mt. St. Helena was limited to four days only, and on the afternoon of April 14 we moved down the grade, on the northerly side of the ridge, two miles to the Mountain Mill Hotel. This place is a small hostelry just inside the Lake County line, at an altitude of perhaps 1500 feet. It is situated in a very narrow valley one side of which really forms the east, or northeast base proper of Mt. St. Helena, and is visited chiefly at this time of year by anglers.

At the bottom of this valley is a creek named on some maps the St. Helena Creek, which runs past Middletown into the Putah Creek, flowing into the Sacramento River basin.

At this point Transition mingles with Upper Sonoran, and close around the buildings are a few small open areas, almost swallowed up by brush and woods, but for some miles down stream it is all heavy forest, with the valley narrowing into a canyon only to widen into a valley again as Middletown is approached. The locality at first appeared to be a very likely one for numerous species of bird life, but we were doomed to disappointment, for birds were scarce. In fact, they appeared to be scarce almost everywhere in the Transition zone. Here we came across more of the summer visitants, such as the Western House Wren (*Troglodytes aedon parkmanni*) and Cassin's Vireo (*Lanius solitarius cassini*), seen on April 15, and the Pacific Black-headed Grosbeak (*Zamelodia melanocephala capitalis*), on April 16. Along the stream were a few Marin Song Sparrows (*Melospiza melodia gouldi*), acting as if they took a great interest in the locality with a view to raising families there.

There was little suitable brush for fox sparrows nearby, but about half way up on a road leading to a walnut orchard and

country home, called "Montesol," high up on the ridge upon the east side of the valley, there was a break in the woods at about 1600 feet elevation showing a few acres of brush, and in this spot on April 15 and 16, I succeeded in "squeaking up" two or three of these birds and securing one Yolla Bolly on each occasion. The brush was too dense to allow of penetrating far or more might have been obtained.

Besides the song sparrows, the Western Winter Wren (*Nannus hiemalis pacificus*) was found along the stream. From its actions it was apparently breeding there although no nests were discovered. A flock of Cedar Waxwings (*Bombycilla cedrorum*), was noted by Little at the old Mirabel quicksilver mine, long abandoned and a likely looking place for bats (some of which he found there), on April 16. This place, however, was some miles down stream from our stopping place and in Upper Sonoran.

The weather turned so bad here, with a heavy rain all day on April 17, making everything in the forest and brush so wet and bedraggled, that we decided to move further inland, and on the morning of April 18 we went by auto to

HARBIN SPRINGS, LAKE COUNTY

This place is also in a narrow valley—almost a canyon—with some fairly open ground on which grow scattered oaks and digger pines (*Pinus sabiniana*) but most of the surrounding hills are very steep and covered principally with brush, of which a large proportion is chamisal and with trees in the sheltered places and ravines. On the way to Harbin Springs we passed through Middletown, four miles distant, which is in an Upper Sonoran open country at about 1200 feet elevation. We noted in traveling through many of the common birds natural almost anywhere at this latitude to country of like character in central California. Soon after leaving Middletown the road commences to ascend until it reaches the springs at about 1600 to 1800 feet altitude with the whole face of the range, here with a southerly exposure, in Upper Sonoran clear to its summit, which much reach something like 3000 feet elevation.

The afternoon of our arrival a recently commenced nest of Cassin's Vireo (*Lanivireo solitarius cassini*), was pointed out to us by a lady who was staying at the hotel and who had noticed the birds building in a live oak tree under which she was sitting. This nest was again visited on April 24, but no eggs as yet had been deposited. The following summer visitors were first met with at this point:—California Yellow Warbler (*Dendroica æstiva brewsteri*), April 18; Western Warbling Vireo (*Vireosylva gilva swainsoni*) and Bullock's Oriole, April 19; Long-tailed Chat (*Icteria virens longicauda*), April 20; Western Wood Pewee (*Myiochanes richardsoni richardsoni*), April 21; Ash-throated Flycatcher (*Myiarchus cinerascens cinerascens*), and Lazuli Bunting (*Passerina amœna*), on April 22. These dates might be considered as fairly approximating the actual dates of arrival for the respective species, for the reason that we had not met with them before in spots where one would reasonably expect to find them.

Up to this point we had not found any Thryomanes, nor positively identified its song, in spite of the fact that Fisher had reported it as "taken in the open chaparral, where it was apparently common" on Mt. St. Helena, but in the chamisal brush at Harbin Springs we heard several and captured one, which proved to be the San Joaquin Wren (*Thryomanes bewicki drymæcus* Oberholser), but intergrading toward *marinensis* Grinnell. The scarcity of this genus in the territory we covered is rather remarkable, as no specimens were taken after leaving this place, although we were constantly on the lookout for it. The form *marinensis*, or Nicasio Wren is the nearest neighbor to the *drymæcus*, or San Joaquin Wren at this point, being found, as with the other humid coast forms only 25 or 30 miles to the westward.

A couple of the Yolla Bolly Fox Sparrows were found here also, at an altitude of about 2000 feet, their actions indicating that they were paired, although as only one was taken this could not be proved. These two birds were in some low, flattened down wild grape vines alongside a road on a steep hillside and seemed to be accompanying a small flock of Golden-crowned Sparrows (*Zonotrichia coronata*). One of the fox sparrows was taken and the other hung around for some little time, but kept under cover so well that it was not secured. Mr.

Little climbed to the top of the mountain range back of the springs in search of fox sparrows but failed to find any suitable brush for them. He brought back with him a thrush which I have placed with the Monterey Hermit Thrush (*Hylocichla guttata slevini*), but which seems to be intermediate between that form and *nana*.

Here we found the Slender-billed Nuthatch (*Sitta carolinensis aculeata*), and the Plain Titmouse (*Bæolophus inornatus inornatus*), for the first time on the trip. The Black-throated Gray Warbler (*Dendroica nigrescens*), we found present in considerable numbers, with indications of its breeding there, or in the vicinity. Unfortunately, on a reconnaissance of this sort, time does not permit one to devote much attention to the finding of nests, which is often slow, tedious work, for the spring-time passes rapidly and we had much to do. Besides our ornithological work we set out traps for small mammals every night, which had to be attended to in the mornings before we could think of the birds. So it can be said that our discovery of nests was more or less incidental, although ever on the watch for signs of them. There were very few Blue-fronted Jays in this part of the country, but we were informed that they gather here in numbers during the fall and winter.

Having examined this locality as much as we desired at this time, on the evening of April 24 we moved to

CASTLE SPRINGS, LAKE COUNTY, CALIFORNIA

This place is a resort with various sorts of hot and cold springs, four or five miles west of Middletown, on Castle Mountain at an altitude of about 2800 feet. The buildings are situated upon a short, steep-sided spur projecting from the eastern slope of the range, with the mountain rising back of it several hundred feet higher. While there are extensive tracts of timber on the east side below this elevation, most of the country above it is covered with brush, the timber running up only in the deeper gullies and canyons. A large proportion of the brush is chamisal, with patches of ceanothus, and thick growths of small spindly trees of various sorts, the whole mountain showing evidences of having been frequently swept by fires, which might account for the scarcity of rodents.

The principal object in visiting this place was to ascertain if any fox sparrows might be breeding on the mountain, but, although there seems to be sufficient brush of suitable sort to attract them, it was evidently not at a high enough altitude to meet their needs.

A few individuals of small-billed races of fox sparrows were still loitering on their northward journey to their distant breeding grounds, of which one or two were taken, but no Yolla Bollys.

Except for the species commonly found about gardens and dwellings in this central part of California, birds were notably scarce, although there was water in abundance in the springs and small streams—the latter in ravines too steep and rough for us to follow far. A number of Sonoma Thrashers inhabit the brushy hillsides, and their diversified vocal outpourings were most pleasing. At times none could be heard, at other times one or two would break into song for short periods, while again other individuals, from the top of some bush, would go through their entire repertoire only to repeat it again and again until a real or fancied danger caused a sudden dive into the thicket. The Pallid Wren-tit (*Chamaea fasciata henshawi*), also was here in abundance, in some parts their peculiar trilling notes seeming to come from all sides. Other birds and small mammals being so scarce and hard to find, a move was made on the morning of April 27 to

GLENBROOK, LAKE COUNTY, CALIFORNIA

At one time a well known resort for hunters and fishermen, this place at present is conducted as a sort of farm that will accommodate guests if they appear. It is situated at the northern base of Mt. Cobb, 12 miles west of Middletown on the road to Kelseyville and Lakeport, and is also on Kelsey Creek, which flows into Clear Lake. It is three miles west of Cobb P. O. in Cobb Valley, at an elevation of about 2300 feet, the divide, between this valley draining into Clear Lake and the Middletown Valley draining into the Sacramento River basin, being a short distance above Cobb. Here we found the vegetation much behind what we had so far been encountering, it being at about the same stage as that on Mt.

St. Helena upon our first arrival there, April 10. And here also the country gave even more evidence of Sierran characteristics in the way of magnificent yellow pines (*Pinus ponderosa*) growing in the fairly level fields of the valley, with sugar pines (*Pinus lambertiana*) on the hillsides nearby. The wild flowers were especially noticeable in their abundance and beauty, great beds of bleeding heart (*Dicentra formosa*) being perhaps among the most attractive.

We had been informed that the top of Mt. Cobb was easily reached from this spot, but found that this was not the case, as it is some six miles away and reachable only by a somewhat dubious trail. However, as we had been on two sides of the mountain and had been unable with our glasses to locate anything that looked like favorable brush for fox sparrows, together with the fact that its height was under 4000 feet, we decided that an attempt to reach the top would not be worth the while.

Around and in the farm orchard at Glenbrook there were more of the commoner species of birds, especially of song birds, than at any place we had so far seen on the trip. At the time of our arrival the avian chorus was certainly a fine one, with Linnets, California Purple Finches, Western Warbling and Cassin's Vireos, Marin Song Sparrows, Western House Wrens and Western Robins doing their utmost to swell it nearby, while from the distance came the notes of California Woodpeckers, Mountain Quail, Long-tailed Chats, etc., occasionally enlivened by the call of a Red-shafted Flicker.

We had reached this spot in time for lunch, soon after which we separated for a reconnaissance of the surrounding country, which appeared to be very favorable for bird life. But, as was the case at the other places visited, we found the birds much more numerous near the habitations than further away, although we soon heard the chorus greatly augmented by the rollicking tones of the Western Purple Martin (*Progne subis hesperia*), a small flock of which was trying to make up its mind as to which of a number of likely looking trees it would choose for its summer headquarters.

The surprise of the afternoon was when Little came upon a hummer that proved to be the Calliope Hummingbird (*Stellula calliope*), and hastened back with the report that he had

seen several in a little pocket in the hills where the wild white lilac was blooming in profusion. Going at once to the spot we endeavored to study their actions and to secure some specimens, both of which were somewhat difficult matters because of the shyness and rapidity of motion of the birds.

As soon as the traps had been visited on the morning of April 29, we repaired to the wild lilac patch to watch the hummingbirds, in order, if possible, to discover the reason for their presence in such a supposedly out-of-the-way place for the Calliope. Away from the Sierra Nevada Mountains there are but few records for the state except in the extreme north and south, and there solely upon high mountain ranges, the only authentic ones being of migratory birds. Singularly enough, however, there are two or three from the vicinity of Oakland, Berkeley, and Hayward, Alameda County (Pacific Coast Avifauna, No. 12, A Distributional List of the Birds of California, p. 88). There were, apparently, no trustworthy breeding records for any part of the state below 4000 feet, hence it was a matter of great interest to know what these birds were doing in this place at an altitude of only 2300. Their activities seemed to be confined to this sort of small, southerly exposed pocket lying against a low hill on one side, whose slope was covered with the white lilac in full bloom. On the east and south sides was the forest running up into the high hills, with its nearest edge partially cut over, while to the westward the little pocket opened out into the larger valley, forming a warm and sheltered nook. In its center ran a very low little ridge covered with scattered pine and oak trees, with here and there bunches of lilac and manzanita bushes among which small fir, pine and oak saplings were growing, at whose feet were many wildflowers—altogether a most favored spot.

There were several hummers darting about at the moment of our arrival that morning, among them being one or two Anna Hummingbirds (*Calypte anna*). Of the Calliopes there were mostly males in evidence, the females either being much scarcer or else keeping more out of sight—a point not definitely determined. The courting actions of the Calliope were as follows:—The males would poise in the air, each individual seeming to remain in his particular plane—that is, neither rising nor falling—for quite a prolonged period, often turning

around from side to side on an even keel, as it were, and back again, evidently on the lookout for females. The latter would be sedately sitting on a bare twig or dead limb, usually of a low bush, and very difficult for us to locate. From time to time they would emit a peculiar sort of *grunt*, if that will convey the idea, this word being defined in the dictionary as "a deep, guttural sound" and it was, relatively speaking, both deep and guttural—for a hummingbird! The male apparently caught this sound, or else caught sight of the female—it was impossible to say which came first, for it seems most probable that the sound was meant to attract his attention—and would immediately dart to the spot, at once commencing the ascending and diving antics common to all, or most, species of hummingbirds. There is a peculiar tone to the whizzing sound that the Calliope makes in the downward rush which could hardly be mistaken for that made by any other species, once it is fastened in the observer's mind, and this distinctiveness is accentuated by a very characteristic squeak given at or near the lowest point of the dive. The birds are so small and their evolutions so rapid that it is extremely difficult for the eye to follow them. Between times the males would perch on, or near, the top of an oak or fir sapling, from which they would have a good view, and remain quiet, perhaps just resting, for short periods, but were very difficult to approach. It was hard to determine whether their leaving their post of observation was due to fear of approaching danger or only the result of a sudden impulse that would have caused them to take flight anyway.

When shot they are exceedingly hard to find, small as they are and with so little brilliant coloring. In fact, even on open, practically bare ground they are by no means easy to retrieve. The safest way to procure specimens of the males was to watch in some promising spot which was fairly open, with but little grass or trash on the ground, and to shoot them from a distance with a good-sized load of dust shot as they poised in the air. There was little chance of more than one or two pellets out of the charge striking such a small object as one of these hummingbirds at twenty to thirty yards, there actually being quite a chance of none striking at all. Seven were secured at this time, five males and two females, and several lost. One of the females contained the

yolk of an egg of about full size. There was no sign of shell but it was probably the first of the clutch and would have been laid inside of forty-eight hours.

The country roundabout was searched for more of this species of hummingbird, especially where the wild lilac was abundant, but on this occasion only one other individual was positively identified, and this was a female, taken on the Mt. Hannah side of Cobb Valley at an altitude of about 3000 feet. This bird was noted among the inner and at the same time lowest dead branches of a large, umbrella-like black oak, which had no limbs for quite a height. After being watched for some time and no nest discovered this female was taken for the record.

Later developments with another bird under somewhat similar conditions lead me to believe that this female actually did have a nest high up in this oak tree, probably in the building stage. A few other hummingbirds were seen in the brush but none near enough for identification, and none was found performing courting evolutions except in the spot above described.

A second visit was made to Glenbrook, June 3 to June 5, in company with my brother, John W. Mailliard, and the results of this visit, as far as concerns the Calliope Hummingbird, may better be given here as a sequel to what has just been written. On the morning of June 4 the spot where these hummingbirds had been found on our April visit was examined, but not a trace of one was seen. The flowers had all disappeared, and so had the hummingbirds. Later in the morning a trip was made by auto up the old road to Adams' Springs, alongside of which the female Calliope mentioned above was taken in the oak tree, but hardly a hummingbird was seen and none identified. Returning to Glenbrook for lunch we found the early afternoon too hot for any satisfactory work abroad, and leaving Little to finish up some inside work my brother and I adjourned to a shady spot under some alder trees by the brookside, only a few rods from the house, as being a pleasant and favorable place in which to watch for birds. While we were sitting there, some few yards apart, a female Calliope Hummer came and fed upon a wild columbine almost within arm's reach of my brother. Shortly before this I had noticed a faint buzzing sound overhead when passing

under a certain tree—so faint as not to be recognized as being made by a hummingbird—but after seeing this female so close to the place our suspicions were aroused and we finally succeeded in locating a nest, finding it to contain two young almost ready to fly, and proving beyond doubt that the Caliope Hummingbird was breeding in this locality. The parent of this nest and the two young are respectively Nos. 19957, 19958 and 19954, C. A. S. The nest was saddled on a small dead limb, close to where it came out of a bunch of larger limbs that were alive, and situated in such a way that it was well sheltered from sun or rain by the largest limb of all. Barring the mountains in extreme northern and southern California, this is the first absolutely reliable, published record of the nesting of this species west of the Sierras and below 4000 feet altitude.

Returning to the earlier visit to Glenbrook, on the morning of April 30 I went up the old road to Adams' Springs before spoken of to a little way past the nearest summit. The first mile of this road at this end is entirely in the brush country, manzanita, white lilac, chaparral, etc., which here is interspersed with the Macnab cypress (*Cupressus magnabiana*). Very few birds were seen until some timber near the summit of the road was reached, in which were some vireos and warblers, and among the latter was a male Calaveras Warbler (*Vermivora ruficapilla gutturalis*), which was the only one noted on the whole trip. Just beyond this stretch of woods lay an open hillside field of perhaps ten acres in extent covered with short green grass, near the middle of which was a swampy spot, of maybe one acre or less, that was occupied by a small colony of red-winged blackbirds. Being high up in the hills, and surrounded by forest and brush, it was about the last place in which one would expect to run across these birds.

There were several small colonies of them scattered through Cobb Valley wherever swampy. Several specimens were taken, in the valley and on the mountainside, which seem to be in no way different from the Bicolored Red-wing (*Agelaius phoeniceus californicus*) of Marin and Sonoma counties bordering on San Francisco Bay.

Both Audubon's Warbler (*Dendroica auduboni auduboni*), and the Black-throated Gray Warbler (*Dendroica nigrescens*)

were present in limited numbers at Glenbrook and the surrounding hills, a juvenile not long from the nest of the former and a female of the latter with an egg in the oviduct proving that these two species breed here.

The juvenile Audubon escaped in some thick brush, but the female Black-throated Gray, taken on May 2, is No. 19940, C. A. S.

Several pairs of the Sierra Junco (*Junco oreganus thruberi*) were seen in Cobb Valley and a male was taken near Glenbrook on May 2 for the record. Golden-crowned Sparrows were still in evidence that morning, several being seen near the buildings in a hedge that seemed to be a favorite shelter for this species throughout our stay there. This date may be of some interest in the way of comparison of dates of migration of this species at various points.

Around Glenbrook, as was the case in regard to most of the localities visited on this trip, there was very little trash lying on the ground in the woods or under the brush, nor many dead leaves even where there were no signs of recent fires. In fact, the surface of the ground was remarkably bare in most places, as if all the leaves and branches that fell had either been burned up or washed away by extremely heavy rains, but there were neither ashes nor gullying to certify to either of these causes for the absence of organic matter.

One of the results of this condition was that but little cover existed for insects or small rodents, and the scarcity of the former may have more or less effect upon the bird life of the country, especially as concerns those species of birds which seek their food principally on the ground.

The vicinity of Glenbrook having been pretty well prospected by May 3, we started back for San Francisco, stopping overnight at Mt. St. Helena to have another look for fox sparrows, as related in a former paragraph. Finding nothing of interest there and the weather being greatly against us, we returned to San Francisco on May 4 to overhaul specimens and refit for further work in other localities.

In a paper published by Dr. Witmer Stone in 1904 (Proc. Acad. Nat. Sci. Phila., 1904, p. 583), the Thick-billed Fox Sparrow (*Passerella i. megarhyncha*) was mentioned as having been taken in late spring and summer on Mt. Sanhedrin, California, a mountain mostly in Mendocino County, and pre-

sumably breeding there. As, however, the Yolla Bolly Fox Sparrow (*P. i. brevicauda*) had since that date been found to be the form breeding in the mountains not far north of Sanhedrin, and as the breeding range of the Thick-billed Fox Sparrow has never been definitely determined, (Swarth, Proc. Biol. Soc. Wash., Vol. 31, p. 162) it seemed to be worth while to follow this matter up, especially as we had been examining the country not far to the south of this point, and had found the Yolla Bolly to be quite common there in the early spring, as shown in the first part of this paper. Hence our further prospecting was planned with this end in view and on May 16, Mr. Little and I proceeded, via Willits on the Northwestern Pacific R. R., to a point from which, we were informed, it would be an easy matter to reach the top of Mt. Sanhedrin, this being a place called Hearst, on a fork of the Eel River about 16 miles to the eastward of Willits. We found that Hearst is only a post office which used to be close to the county bridge, called the Hearst Bridge, but which has been moved up the valley two miles and is now at a summering place called Emandal. We staid at the Eel River Inn, close to the Hearst Bridge. There is no actual settlement in this part of the Eel River Valley other than an occasional farmhouse or resort for hunters or fishermen.

As had often before been the case we found the top of the mountain much farther away than we had been led to suppose, it being in this case about ten miles off, and not the easy walk our informant had spoken of. There is a road, however, leading through a large private holding at this spot and at an opportune meeting with the owner permission was obtained to use it, ordinarily kept closed by a locked gate. On May 21 a rig was secured and with a chance acquaintance Little succeeded in reaching a point from which he could find his way to the top on foot. Sanhedrin is a long, ridge-like mountain, and at this end no suitable brush for fox sparrows was found, all this part of the summit being covered with a dense growth—where the rock permitted any at all—of young oaks about two feet high, which had apparently leaved out early and had then been frostbitten, giving the whole growth a reddish appearance that had been noted by us as far away as the Hearst Bridge.

Although the mountain is something over 6000 feet high at the point here visited but few birds were noted that were not found down at the river level, which was about 1300 feet, where we were staying. The Sierra Red-breasted Sapsucker (*Sphyrapicus varius daggetti*) and the Pygmy Nuthatch (*Sitta pygmaea pygmaea*) were about the only ones worth special mention.

The most prominent bird in this locality was the Northern Pileated Woodpecker (*Phlæotomus pileatus albeticola*), several of which were seen and oftener heard, but no nests were found nor did any actions of those observed seem to indicate that they were then feeding young. Cassin's Vireo at first appeared to be very numerous here, and four nests were located within the first twenty-four hours of our stay, but it afterward turned out that we had come across a good proportion of those present in this short space of time, for but few other pairs were seen, and no more nests discovered. Black oaks seemed to be their favorite nesting place, but one nest was found in a scraggly manzanita bush, eight feet from the ground. Seven to ten feet appeared to be the usual height from the ground, although, of course, there may have been others at a greater height that we did not discover. The Western Tanager (*Piranga ludoviciana*) breeds here in limited numbers, one nest containing four nearly fresh eggs being taken near the river on May 22. As is common with this species this nest was out toward the end of a horizontal branch of a Douglas fir (*Pseudotsuga macrocarpa*) twenty-five feet from the ground, and was secured by Little, who "shinned" up a sapling pole held in place with guy ropes. One or two other nests of this species were found but were not finished at the time of our leaving. Several mergansers were seen on the river, one of which flew up or down stream nearly every day, uttering most unmusical notes in passing. We did not succeed in capturing any, but were near enough to be fairly sure that they were *americanus*.

The country at this point is all Transition, with a good deal of open pasture land on the southerly exposed hillsides, and looks as if it ought to be a very attractive place for birds. During our stay the vicinity was well gone over, within a radius of two or three miles at least, but the birds were

found as scarce as in the other localities visited, with rodents in the same category.

Wishing to get nearer to Sanhedrin's summit at the opposite end we decided to go to Lierly's Ranch—a combination ranch and old time hunters' resort which was the headquarters of Bunnell upon the occasion of his visit to this mountain before referred to. While it was only six or eight miles from where we were, being without pack animals we had to go back to Willits, to Potter Valley via Ukiah (almost), and thence in to Lierly's—a round-about journey of over *sixty* miles to reach our destination. On the way into the hills from Potter Valley birds seemed scarcer than ever, and the end of our journey did not give much promise of more encouraging prospects in that line. The only day upon which we could get horses and a guide was May 25, on which date Little reached the summit nearest to this point and found fox sparrows numerous on the mountain. Several specimens were secured, which proved to be the Yolla Bolly (*Passerella iliaca brevicauda*), as had been anticipated.

Except for the Northern Piliated Woodpecker there seemed to be nothing of special interest in the immediate vicinity of Lierly's, the only birds we saw being the commonest species that one would expect to find in such a locality, and as this place was too far away from the mountain top for satisfactory work with our equipment we left for home on May 26, seeing but little on the road through the forest save an occasional Sierra Junco, or perhaps a Western Robin nesting by the roadside.

What might be called the last trip of the season was made in company with my brother, John W. Mailliard, in his car to Fout's Springs, which is near the base of Snow Mountain, in the northwest corner of Colusa County, California. This place is in a very small, relatively level, well-watered valley, draining into the Sacramento basin, with chamisal-covered hills on the east and south and backed by mountains on the other two sides, the most important of which is Snow Mountain, about 7000 feet high and lying a little over 20 miles southeast of Mt. Sanhedrin. The country all around the valley is covered with a very thin, gravelly soil; and most of it has rather recently been burned over. There are some black oaks, "blue" oaks, and digger pines in the little valley, whose elevation is

about 1750 feet, with the flora changing on the mountain sides as the altitude increases.

Here again was a most attractive looking spot for bird life but, except around the houses, there were few birds in evidence. In the trees near the buildings some Northern Violet-green Swallows (*Tachycineta thalassina lepida*), California Woodpecker (*Melanerpes formicivora bairdi*), Slender-billed Nuthatch (*Sitta carolinensis aculeata*), the ubiquitous (all through this country, at least), Western Robin (*Planesticus migratorius propinquus*), and a few other common species, were nesting or feeding their young just out of the nest. And again, away up here in the brush country, were a few red-winged blackbirds. Only one was secured, which is very close to the Bicolored Redwing (*Agelaius phoeniceus californicus*) of San Joaquin County.

We were disappointed in the matter of obtaining horses for a trip to the summit of Snow Mountain, and had to abandon the idea of reaching that point, so while my brother and I prospected the lower levels, on June 2, Little went up on Goat Mountain to an altitude of something like 4500 feet. He did not come across any fox sparrows nor any brush suitable for them, but the Yolla Bolly has been taken on Snow Mountain, for Dr. Joseph Grinnell tells me he has seen specimens from that point. Poor-wills were heard in the dusk of evening and some were called down into open spots, but guests of the place wandering about prevented our securing any for identification. However, there is no reason to suppose that they were anything else than the Dusky Poor-will (*Phalacroptilus nuttalli californicus*).

Our stay here was shortened by this absence of saddle horses and we left on June 3, intending to stop at some place on the way back if conditions seemed to warrant. The principal incident of the morning was the taking of a nest of Bell's Sparrow (*Amphispiza belli*) at the summit of the toll road between Bartlett Springs and Upper Lake. From time to time along the road we had been stopping to look about for birds and listen for their notes, and on this occasion had come out of the forest on to a sort of saddle, or V-shaped gap, where the road suddenly shifted from the north side of the range to the south side, and out of the timber into chamisal brush. Not a bird was to be seen, but on taking a few steps

into the low chamisal, burnt over within the last two or three years, a bird flushed from a small bush and revealed a nest with four eggs. The parent was finally secured and proved to be *Amphispiza belli*. Except for its mate not another of this species was heard or noted within many miles of this spot. One or two, however, were seen and heard on the Langtry Ranch, between Middletown and Aetna Springs, in Lake County, on June 5.

We decided to visit Glenbrook again, and arrived there on the evening of June 3. At once we were struck by the difference in the avian life here. Instead of being greeted with a boisterous bird chorus all was silent save for a few chirpings—the songs had died away. Many of the birds had gone, and most of those that were left were busy looking after their young. A few were late in their nesting and we found a nest of Cassin's Vireo (*Lanivireo solitarius cassini*), containing three fresh eggs, in an old apple tree in the orchard, near the end of a branch only about five feet from the ground.

We were amply repaid for this second visit to Glenbrook by the finding of the nest of the Calliope Hummingbird, as already related.

Not wishing to interfere with the parental duties of the avian population any more than necessary, or to run the risk of taking the lives of parents of young, we concluded to call a halt in the field work for the time being and returned to San Francisco on June 5.

Appended herewith is a tabulated list of birds noted at the various places mentioned which shows in concise form the results of our observations as regards the species met with.

	Mt. St. Helena Inn, Napa Co., Calif.	Mr. Mill Hotel, Lake Co., Calif.	Harbin Springs, Lake Co., Calif.	Castle Lake Co., Calif.	Glenbrook, Lake Co., Calif.	Bel River Inn (Hearst), Mendocino Co., Calif.	Livery's, Mendocino Co., Calif.	Mr. Sanhedrin, Mendocino Co., Calif.	Four's Springs, Colusa Co., Calif.
Spotted Sandpiper (<i>Actitis macularia</i>)
Killdeer (<i>Oxyechus vociferus</i>)
Mountain Quail (<i>Oreortyx p. plumifera</i>)
Valley Quail (<i>Lophortyx c. vallicola</i>)
Western Mourning Dove (<i>Zenaidura m. marginella</i>)
Turkey Vulture (<i>Cathartes a. septentrionalis</i>)
Cooper's Hawk (<i>Accipiter cooperi</i>)
Sharp-shinned Hawk (<i>Accipiter velox</i>)
Western Red-tailed Hawk (<i>Buteo b. calurus</i>)
American Sparrow Hawk (<i>Falco s. sparverius</i>)
Pacific Horned Owl (<i>Bubo v. pacificus</i>)
Western Belted Kingfisher (<i>Ceryle a. caurina</i>)
Cabanis' Woodpecker (<i>Dryobates v. hyloscopus</i>)
Willow Woodpecker (<i>Dryobates p. turati</i>)
Sierra Red-breasted Sapsucker (<i>Sphyrapicus v. daggetti</i>)
Northern Pileated Woodpecker (<i>Phloeotomus p. abieticola</i>)
California Woodpecker (<i>Melanerpes formicivorus bairsti</i>)
Red-shafted Flicker (<i>Colaptes c. collaris</i>)
Dusky Poor-will (<i>Phalacroptilus n. californicus</i>)
Anna's Hummingbird (<i>Calypte anna</i>)
Allen's Hummingbird (<i>Selasphorus alleni</i>)
Calliope Hummingbird (<i>Stellula calliope</i>)
Western Kingbird (<i>Tyrannus verticalis</i>)
Ash-throated Flycatcher (<i>Myiarchus c. cinerascens</i>)
Black Phoebe (<i>Sayornis nigricans</i>)
Olive-sided Flycatcher (<i>Nuttallornis borealis</i>)
Western Wood Pewee (<i>Myiochanes v. richardsoni</i>)
Western Flycatcher (<i>Empidonax d. difficilis</i>)
Blue-fronted Jay (<i>Cyanocitta s. frontalis</i>)
Northwestern California Jay (<i>Aphelocoma c. oocleptica</i>)
Western Crow (<i>Corvus b. hespers</i>)
Bicolored Red-winged Blackbird (<i>Aegialus p. californicus</i>)
Western Meadowlark (<i>Sturnella neglecta</i>)
Bullock Oriole (<i>Icterus bullocki</i>)
Brewer's Blackbird (<i>Euphagus cyanocephalus</i>)
California Purple Finch (<i>Carpodacus p. californicus</i>)

* = noted
t = taken
n = nesting, or signs of nesting noted

	Mr. St. Helena Inn, Calif.	Mr. Mill Hotel, Lake Co., Calif.	Harbin Springs, Lake Co., Calif.	Castle Springs, Lake Co., Calif.	Glenbrook, Lake Co., Calif.	Eel River Inn (Hearst), Mendocino Co., Calif.	Lierly's, Mendocino Co., Calif.	Mr. Sanhedrin, Mendocino Co., Calif.	Four's Springs, Colusa Co., Calif.
* = noted	*	*t	*tn	*tn	*	*
t = taken	*	*t	*t
n = nesting, or signs of nesting noted	*
Pallid Wren-tit (<i>Chamaea f. henshawi</i>)
California Bush-tit (<i>Psaltriparus m. californicus</i>)
Western Ruby-crowned Kinglet (<i>Regulus c. cineraceus</i>)
Western Gnatcatcher (<i>Poliopila c. obscura</i>)
Russet-backed Thrush (<i>Hylocichla u. ustulata</i>)
Dwarf Hermit Thrush (<i>Hylocichla g. nana</i>)
Monterey Hermit Thrush (<i>Hylocichla g. slevinti</i>)
Western Robin (<i>Planesticus m. propinquus</i>)
Western Bluebird (<i>Sialia m. occidentalis</i>)

REMARKS

American Merganser (*Mergus americanus*)..... Some mergansers, of presumably this species, noted on Eel River near Hearst Bridge.

English Sparrow (*Passer domesticus*)..... Seen only at Hearst, Mendocino County, Calif.

Bell's Sparrow (*Amphispiza belli*)..... Noted on Langtry Ranch, between Middletown and Aetna Springs, Lake County, and nest with parent taken on toll road between Bartlett Springs and Upper Lake, Lake County, Calif.

Yakutat Fox Sparrow (*Passerella i. meruloides*), and subsps.... Fox sparrows other than *brevicauda* were noted in the first four places visited, but taken only in two, as indicated. Those seen only are marked in the column with question marks, as the subspecies was, of course, not ascertained.

Aphelocoma c. subsp.?..... The jays of this genus taken on the expedition are very similar to those found in parts of Marin and Sonoma counties where some of the Sierran forms reach the coast. Mr. H. S. Swarth mentions the coming together of *immanis* and *oocleptica* in such places in his paper entitled "The Pacific Coast Jays of the Genus Aphelocoma" (University of California Publications in Zoology, Vol. 17, No. 13, pp. 415-422). His comparisons therein were made with fresh fall specimens, while those we took were all in more or less faded and abraded plumage, with consequent alterations in coloration, and abbreviation of wing and tail measurements. All are listed above as *oocleptica*, but there is more or less leaning toward *immanis*.